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=> s fluorescen? and dyes and (emission spectr?)
        452628 FLUORESCEN?
        218155 DYES
             1 DYESES
        218155 DYES
                  (DYES OR DYESES)
        509542 EMISSION
         94096 EMISSIONS
        554301 EMISSION
                  (EMISSION OR EMISSIONS)
       2659149 SPECTR?
         79663 EMISSION SPECTR?
                  (EMISSION(W)SPECTR?)
L1         655 FLUORESCEN? AND DYES AND (EMISSION SPECTR?)

=> s l1 and (separat? or subtract?)
        381850 SEPARAT?
        292422 SEP
         12656 SEPS
        303867 SEP
                  (SEP OR SEPS)
        465360 SEPD
             2 SEPDS
        465362 SEPD
                  (SEPD OR SEPDS)
        101825 SEPG
        587591 SEPN
         38047 SEPNS
        606811 SEPN
                  (SEPN OR SEPNS)
       1467605 SEPARAT?
                  (SEPARAT? OR SEP OR SEPD OR SEPG OR SEPN)
         28303 SUBTRACT?
L2          51 L1 AND (SEPARAT? OR SUBTRACT?)
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=> d kwic

L2    ANSWER 1 OF 51  CAPLUS  COPYRIGHT 2007 ACS on STN
AB    The present invention relates to detection of an emission
      spectrum by irradiating excitation light onto a plurality of
      electrophoretic paths and dispersing fluorescent light output
      from the electrophoretic paths in a direction approx. vertical to an
      electrophoretic direction.  According to the invention, since an
      emission spectrum to be detected does not substantially
      change over time, it becomes possible to make observed emission
      spectra completely correspond to various fluorescent
      dyes or various bases.  The present invention relates to an
      electrophoretic apparatus for sepg. and analyzing a nucleic acid, a
      protein and the like by using an electrophoretic method, and in
      particular, to a fluorescent detection technique of an
      electrophoretic apparatus
ST    Electrophoretic app emission spectra
      fluorescent light


=> s l1 and ((separat? or subtract?) (3a) (spectr?)
UNMATCHED LEFT PARENTHESIS 'AND ((SEPARAT?'
The number of right parentheses in a query must be equal to the
number of left parentheses.

=> s l1 and ((separat? or subtract?) (3a) spectr?)
        381850 SEPARAT?
        292422 SEP
         12656 SEPS
        303867 SEP
                  (SEP OR SEPS)
        465360 SEPD
             2 SEPDS
        465362 SEPD
                  (SEPD OR SEPDS)
        101825 SEPG
        587591 SEPN
         38047 SEPNS
        606811 SEPN
                  (SEPN OR SEPNS)
       1467605 SEPARAT?
                  (SEPARAT? OR SEP OR SEPD OR SEPG OR SEPN)
         28303 SUBTRACT?
       2659149 SPECTR?
         14407 (SEPARAT? OR SUBTRACT?) (3A) SPECTR?
L3          11 L1 AND ((SEPARAT? OR SUBTRACT?) (3A) SPECTR?)

=> d bib, abs 1-11

L3    ANSWER 1 OF 11  CAPLUS  COPYRIGHT 2007 ACS on STN
AN    2005:571674  CAPLUS
DN    143:213058
TI    Phase separation of excimer-forming fluorescent dyes
      and amorphous polymers: A versatile mechanism for sensor applications
AU    Crenshaw, Brent R.; Weder, Christoph
CS    Department of Macromolecular Science and Engineering, Case Western Reserve
      University, Cleveland, OH, 44106-7202, USA
SO    Advanced Materials (Weinheim, Germany) (2005), 17(12), 1471-1476
      CODEN: ADVMEW; ISSN: 0935-9648
PB    Wiley-VCH Verlag GmbH & Co. KGaA
DT    Journal
LA    English
AB    A temperature-sensing scheme that relies on kinetically trapping mol. mixts. of
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a sensor mol. and amorphous host materials in a thermodynamically unstable state is introduced. Subjecting blends of ≤10 weight% 1,4-bis(α-cyano-4-methoxystyryl)benzene with PMMA or bisphenol A polycarbonate to temps. above their glass transition leads to irreversible changes of their photoluminescence emission spectra due to phase sepn. and excimer formation, as shown for blend films before and after annealing at 150°C for 42 h.

RE.CNT 41 THERE ARE 41 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 2 OF 11 CAPLUS COPYRIGHT 2007 ACS on STN
AN 2005:194500 CAPLUS
TI Phase separation of excimer-forming fluorescent dyes and amorphous polymers: A versatile mechanism for sensor applications
AU Crenshaw, Brent R.; Smith, Kara; Weder, Christoph
CS Department of Macromolecular Science and Engineering, Case Western Reserve University, Cleveland, OH, 44106-7202, USA
SO Abstracts of Papers, 229th ACS National Meeting, San Diego, CA, United States, March 13-17, 2005 (2005), POLY-403 Publisher: American Chemical Society, Washington, D. C.
CODEN: 69GQMP
DT Conference; Meeting Abstract
LA English
AB 1,4-Bis-(α-cyano-4-methoxystyryl)-benzene (BCMB) is a photoluminescent (PL) dye, which exhibits strong tendencies toward excimer formation and displays a remarkably large difference (.apprx. 100 nm) when comparing the emission maxima of a dilute solution with that of the crystalline dye.

The phase separation of initially molecularly mixed blends of BCMB (or other suitable excimer-forming dyes) and appropriate host polymers represents a versatile sensing mechanism. We present here a general sensing scheme which relies on kinetically trapping mol. mixts. of BCMB and amorphous host materials such as poly(Me methacrylate) (PMMA) and poly(bisphenol A carbonate) (PC) in a thermodynamically unstable glassy state. These kinetically trapped systems predominantly display monomer emission and can readily be produced via melt-processing and rapid quenching. Subjecting these blends to temps. above their glass transition leads to permanent and pronounced changes of their PL emission spectra due to phase sepn. and excimer formation. This effect appears to bear significant potential for technol. applications, for example, the use of BCMB/polymer blends as time temperature indicators.

L3 ANSWER 3 OF 11 CAPLUS COPYRIGHT 2007 ACS on STN
AN 2005:182013 CAPLUS
DN 142:228478
TI Method for separating fluorescence spectra of dyes present in a sample
IN Olschewski, Frank
PA Leica Microsystems Heidelberg G.m.b.H., Germany
SO U.S. Pat. Appl. Publ., 15 pp.
CODEN: USXXCO
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2005046836	A1	20050303	US 2004-924422	20040824
	DE 10339311	A1	20050414	DE 2003-10339311	20030827
	DE 10339311	B4	20060427		
PRAI	DE 2003-10339311	A	20030827		

AB A system and a method for setting a fluorescence spectrum measurement system for microscopy is disclosed. Using illuminating light from at least one laser that emits light of one wavelength, a continuous wavelength region is generated. Dyes are stored, with the

pertinent excitation and emission spectra, in a database of a computer system. For each dye present in the specimen, a band of the illuminating light and a band of the detected light are calculated, the excitation and emission spectra read out from the database being employed. Setting of the calculated band in the illuminating light and in the detected band [sic] is performed on the basis of the calcn. Lastly, data acquisition is accomplished with the spectral microscope.

L3 ANSWER 4 OF 11 CAPLUS COPYRIGHT 2007 ACS on STN
AN 2004:878057 CAPLUS
DN 141:328116
TI Method for separating detection channels of a microscope system
IN Storz, Rafael; Birk, Holger
PA Leica Microsystems Heidelberg G.m.b.H., Germany
SO U.S. Pat. Appl. Publ., 14 pp.
CODEN: USXXCO
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2004209300	A1	20041021	US 2004-822428	20040412
	DE 10317669	A1	20041104	DE 2003-10317669	20030417
PRAI	DE 2003-10317669	A	20030417		

AB A method for separating detection channels is disclosed, a sample being equipped with at least two different fluorescent dyes. Firstly the emission spectrum of at least two fluorescent dyes is ascertained. From the emission spectra, the sepn. points of the wavelength and of the individual detection channels are determined Lastly, adjustment of the separation of the at least two channels is accomplished on that basis.

L3 ANSWER 5 OF 11 CAPLUS COPYRIGHT 2007 ACS on STN
AN 2004:726686 CAPLUS
DN 142:235788
TI Five-colour in vivo imaging of neurons in Caenorhabditis elegans
AU Hutter, H.
CS Max Planck Institute for Medical Research, Heidelberg, 69120, Germany
SO Journal of Microscopy (Oxford, United Kingdom) (2004), 215(2), 213-218
CODEN: JMICAR; ISSN: 0022-2720
PB Blackwell Publishing Ltd.
DT Journal
LA English
AB In the last few years variants of the 'green fluorescent protein' (GFP) with different spectral properties have been generated. This has greatly increased the number of possible applications for these fluorochromes in cell biol. The significant overlap of the excitation and emission spectra of the different GFP variants imposes constraints on the number of variants that can be used simultaneously in a single sample. In particular, the two brightest variants, GFP and YFP, are difficult to sep. spectrally. This study shows that GFP and YFP can be readily sepd. with little spectral overlap (cross-talk) with the use of a confocal microscope equipped with an acusto-optical beam splitter and freely adjustable emission windows. Under optimal recording conditions cross-talk is less than 10%. Together with two other fluorescent proteins and the lipophilic dye DiD a total of five different colors can now be used simultaneously to label in vivo distinct anatomical structures such as neurons and their processes. Spatial resolution of the confocal microscope is sufficient to resolve the relative position of labeled axons within a single axon bundle. The use of five distinct marker dyes allows the in viva anal. of the Caenorhabditis elegans nervous system at

unprecedented resolution and richness in detail at the light microscopic level.
RE.CNT 15 THERE ARE 15 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 6 OF 11 CAPLUS COPYRIGHT 2007 ACS on STN
AN 2003:605001 CAPLUS
DN 140:283673
TI Optimization of three- and four-color multiparameter DNA analysis in lymphoma specimens
AU Plander, M.; Brockhoff, G.; Barlage, S.; Schwarz, S.; Rothe, G.; Knuechel, R.
CS Department of Hematology, University Teaching Hospital of Vas County, Szombathely, Hung.
SO Cytometry, Part A (2003), 54A(1), 66-74
CODEN: CPAYAV
PB Wiley-Liss, Inc.
DT Journal
LA English
AB Background: Simultaneous anal. of DNA and immunophenotype of lymphoma cells by flow cytometry allows the calcn. of the proliferative activity and aneuploidy in even a small lymphoma population. Unfavorable DNA binding characteristics or spectral features of DNA dyes impair the accuracy of multiparameter DNA anal. and limit their clin. application. We describe here a reliable and reproducible application of both three -and four-color multiparameter DNA anal. Methods: After immunostaining of fresh samples of peripheral blood, bone marrow and single cell suspensions of lymph nodes from healthy and lymphoma patients, a methanol fixation for TO-PRO-3 and DRAQ5 staining was tested. Results: The red-excitable TO-PRO-3 on a FACSCalibur is limited to two-color antigen staining including fluorescein-isothiocyanate and phycoerythrin-labeled monoclonal antibodies due to its broad excitation spectrum. Although DRAQ5 is only applicable to flow cytometers equipped with a single argon laser emitting 488-nm light, its emission spectrum can be easily sepd. from the FITC, PE, and PE/Texas-Red emissions. DRAQ5 showed almost identical stoichiometric DNA binding characteristics as propidium iodide. Coefficient of variation produced by DRAQ5 staining is in the range of 3.5 and is adequate for detecting aneuploid and near-diploid cells. Conclusions: These advantageous features of DRAQ5 make it a reliable candidate for multiparameter clin. studies.
RE.CNT 33 THERE ARE 33 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 7 OF 11 CAPLUS COPYRIGHT 2007 ACS on STN
AN 2002:696351 CAPLUS
DN 137:197838
TI Spectral calibration of fluorescent polynucleotide separation apparatus
IN Sharaf, Muhammad A.; Roque-Biewer, Maria C.
PA Applera Corporation, USA
SO U.S. Pat. Appl. Publ., 16 pp., Cont.-in-part of U.S. Ser. No. 154,178.
CODEN: USXXCO
DT Patent
LA English
FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2002125136	A1	20020912	US 2001-927791	20010810
	US 6991712	B2	20060131		
	US 6821402	B1	20041123	US 1998-154178	19980916
	EP 1178305	A2	20020206	EP 2001-125166	19990909
	EP 1178305	A3	20040114		

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,

IE, FI

	AT 326009	T	20060615	AT 1999-945645	19990909
	AU 200227465	A	20020509	AU 2002-27465	20020319
	AU 763102	B2	20030710		
	US 2004195101	A1	20041007	US 2004-829853	20040422
	US 2006102479	A1	20060518	US 2005-323620	20051230
PRAI	US 1998-154178	A2	19980916		
	AU 1999-58210	A3	19990909		
	EP 1999-945645	A3	19990909		
	US 2001-927791	A3	20010810		

AB The invention relates to methods, compns., and systems for calibrating a fluorescent polynucleotide separation apparatus One aspect of the invention is multiple color calibration stds. and their use. A multiple color calibration standard is a mixture of at least two polynucleotides of different length, wherein each of the polynucleotides is labeled with a spectrally distinct fluorescent dye. Another aspect of the invention is to produce total emission temporal profiles of multiple color calibration stds. for use in calibrating fluorescent polynucleotide separation apparatus The peaks corresponding to the fluorescently labeled polynucleotides in the total emission temporal profile may be detected using a peak detector that is driven by changes in the slopes of the total emission temporal profile. Calibration of fluorescent polynucleotide separation apparatus, with various embodiments of the methods of the invention, includes the step of identification of the labeled polynucleotides of the multiple color calibration stds. The process of spectral calibration of a fluorescent polynucleotide separation apparatus using a multiple color calibration standard may include the step of the estimating (extracting) of the dyes' reference spectra, using information from the peak detection process performed on the total emission temporal profile. Other aspects of the invention include systems for separating and detecting fluorescently labeled polynucleotides, wherein the system is designed for spectral calibration in accordance with the subject calibration methods employing multiple color calibration stds. Another aspect of the invention is methods and compns. for detecting the flow of elec. current through a separation channel of a fluorescent polynucleotide separation apparatus These methods and compns. employ monitoring dyes. Monitoring dyes are fluorescent dyes that are spectrally distinct from the dye on the polynucleotide intended to convey genetic information, e.g., fluorescent polynucleotide sequencing reaction products.

RE.CNT 21 THERE ARE 21 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 8 OF 11 CAPLUS COPYRIGHT 2007 ACS on STN
AN 2002:693235 CAPLUS
DN 137:213266
TI Non-separation assay method and system using opaque particles
IN Cassells, John; Cope, Tristan John
PA The Technology Partnership Public Limited Company, UK
SO Eur. Pat. Appl., 17 pp.
CODEN: EPXXDW
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 1239284	A1	20020911	EP 2001-302110	20010308
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
	WO 2002073198	A2	20020919	WO 2002-GB984	20020308
	WO 2002073198	A3	20030530		

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG
PRAI EP 2001-302110 A 20010308
AB A method for performing a non-separation assay for determining the level of binding of one component to another. A first component is provided incorporating a fluorescent probe dissolved or suspended in solution A substantially opaque particle is provided onto or into which is incorporated binding sites for the first component and optionally incorporating a dye or fluorophore of different emission spectrum to the first component. The opaque particle is immersed in a solution or suspension of the first component, and the opaque particle to settle out of the solution, or be transported to a fixed position by an applied force. The solution and opaque particle are illustrated with a beam of light such that the opaque particle is in the foreground and attenuates and illuminating beam before it passes into the solution beyond. The intensity of received light (fluorescence) from the first component over an area of the sample with an imaging or scanning detector from the same side of the sample as the illuminating light is determined, and the position of the second component in the sample is determined by detecting attenuation of the received light from the sample and/or by detecting the presence of received light from a dye incorporated in the second component. An apparatus, as well as opaque particles for performing the method are also provided.
RE.CNT 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 9 OF 11 CAPLUS COPYRIGHT 2007 ACS on STN
AN 2002:405594 CAPLUS
DN 137:149483
TI Microscopic chemical imaging for species-selective determination of rhodamine dyes adsorbed on microparticles
AU Yoshida, Kentaro; Kawazumi, Hirohumi; Sato, Miki; Harata, Akira; Hatano, Yoshihiko
CS Kyushu School of Engineering, Kinki University, Iizuka, 820-8555, Japan
SO Analytical Sciences (2001), 17(Suppl.), a313-a316
CODEN: ANSCEN; ISSN: 0910-6340
PB Japan Society for Analytical Chemistry
DT Journal; (computer optical disk)
LA English
AB A fluorescence microscope equipped with an interferometer was used for spectrum imaging of microparticles of an ion-exchange resin adsorbing rhodamine 6G, rhodamine B, or rhodamine 101. Two-dimensional images with each pixel having a fluorescence emission spectrum were obtained for species-selective determination of the rhodamine dyes. These microparticles showed different peak positions in the emission spectra sepd. by 15 nm, and two types of them had similar fluorescence intensity to each other. Species of adsorbed dyes are clearly distinguishable as an image by using a spectrum-based image processing technique and free mols. in solution can be distinguished from the adsorbed dyes. The spatial resolution and detection limit of the system were evaluated. This technique has a potential to selectively determine a small amount of target mols. in microscopic substances, in which a large amount of disturbing substance exist.
RE.CNT 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD

ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 10 OF 11 CAPLUS COPYRIGHT 2007 ACS on STN
AN 1999:602625 CAPLUS
TI Improved double immunofluorescence for confocal laser scanning microscopy
AU Kumar, Rakesh K.; Chapple, Cheryl C.; Hunter, Neil
CS School of Pathology, University of New South Wales, Sydney, 2052, Australia
SO Journal of Histochemistry and Cytochemistry (1999), 47(9), 1213-1217
CODEN: JHCYAS; ISSN: 0022-1554
PB Histochemical Society, Inc.
DT Journal
LA English
AB Reliable double immunofluorescence labeling for confocal laser scanning microscopy requires good separation of the signals generated by the fluorochromes. We have successfully overcome the limitation of a single argon ion laser in achieving effective excitation of dyes with well-sepd. emission spectra by employing the novel sulfonated rhodamine fluorochromes designated Alexa 488 and Alexa 568. The more abundant antigen was visualized using the red-emitting Alexa 568, with amplification of the signal by a biotinylated bridging antibody and labeled streptavidin. This was combined with the green-emitting Alexa 488, which yielded brighter images than fluorescein but exhibited comparable photodegrdn. With appropriate controls to ensure the absence of crosstalk between fluorescence channels, these dyes permitted unequivocal demonstration of co-localization. This combination of fluorochromes may also offer advantages for users of instruments equipped with alternative laser systems.
RE.CNT 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 11 OF 11 CAPLUS COPYRIGHT 2007 ACS on STN
AN 1996:215776 CAPLUS
DN 124:308696
TI Cassette labeling for facile construction of energy transfer fluorescent primers
AU Ju, Jingyue; Glazer, Alexander N.; Mathies, Richard A.
CS Dep. Chem., Univ. California, Berkeley, CA, 94720, USA
SO Nucleic Acids Research (1996), 24(6), 1144-8
CODEN: NARHAD; ISSN: 0305-1048
PB Oxford University Press
DT Journal
LA English
AB DNA primer sets, labeled with two fluorescent dyes to exploit fluorescence energy transfer (ET), can be efficiently excited with a single laser line and emit strong fluorescence at distinctive wavelengths. Such ET primers are superior to single fluorophore-labeled primers for DNA sequencing and other multiple color-based analyses [J. Ju, C. Ruan, C. W. Fuller, A. N. Glazer and R. A. Mathies (1995) Proc. Natl. Acad. Sci. USA 92, 4347-4351]. The authors describe here a novel method of constructing fluorescent primers using a universal ET cassette that can be incorporated by conventional synthesis at the 5'-end of an oligonucleotide primer of any sequence. In this cassette, the donor and acceptor fluorophores are separated by a polymer spacer (S6) formed by six 1',2'-dideoxyribose phosphate monomers (S). The donor is attached to the 5'-side of the ribose spacer and the acceptor to a modified thymidine attached to the 3' end of the ribose spacer in the ET cassette. The resulting primers, labeled with 6-carboxy-fluorescein as the donor and other fluorescein and rhodamine dyes as acceptors, display well-sepd. acceptor emission spectra with 2-12-fold enhanced fluorescence intensity relative to that of the corresponding single dye-labeled primers. With single-stranded M13mp18 DNA as the template, a typical run with these ET primers on a capillary sequencer provides DNA sequences with 99% accuracy in the first

550 bases using the same amount of DNA template as that typically required using a four-color slab gel automated sequencer.